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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/740,684	12/18/2000	Mark J. Foster	AGLE0007	4597

22862 7590 10/20/2004

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EXAMINER

CZEKAJ, DAVID J

ART UNIT	PAPER NUMBER
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2613

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/740,684

Applicant(s)

FOSTER ET AL.

Examiner

Dave Czekaj

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 31-36 is/are allowed.
- 6) ☒ Claim(s) 1-21 and 23-30 is/are rejected.
- 7) ☒ Claim(s) 22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 June 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

On page 2, the applicant argues that Kikinis fails to teach joining the spatially compressed frame of video with the temporally compressed frame of video. The examiner notes that Reitmeier, not Kikinis, was relied upon to show this feature of the claimed invention.

On page 2, the applicant argues that Kikinis fails to teach rendering a frame of video that contains a display window with coordinates and outputting the stream within the coordinates of the window. While the applicant's points are understood, the examiner respectfully disagrees. See for example Kikinis column 14, lines 1-15. There Kikinis discloses that there is no need for all the sectors or frames of the movie to follow one another in sequential fashion. Kikinis further discloses that each sector or frame is transmitted with a sector number and destination or coordinates used to reconstruct the frames before being displayed. Therefore the rejection has been maintained.

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On page 2, the applicant argues that Reitmeier fails to teach joining the spatially compressed frames of video with the temporally compressed frames of video to create a stream of compressed content. While the applicant's points are understood, the examiner respectfully disagrees. See for examiner Reitmeier figure 1. There Reitmeier

discloses a first processor to produce the spatially compressed frames, a second processor to temporally compress the spatially compressed frames, and joining the spatially and temporally compressed frames of content, wherein the first processor is the DCT and QUANT blocks, the second processor is comprised of the motion and motion estimation blocks (128, 130, and 132), and the joiners or mergers are shown as items 122 and 106. Therefore the rejection has been maintained. Further, the applicant's disclosure never uses the word joining (however coupling is used). Coupling of I and P frames to produce a video sequence is shown in Reitmeier. Where in the specification is the joining shown? Where in the drawings is the joining shown?

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the joining must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering

of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-21 and 23-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kikinis (6163795) in view of Reitmeier (6122400).

Regarding claims 1, 13, and 18, Kikinis discloses an apparatus for providing customers selected video information in a timely manner (Kikinis: column 1, lines 18-21). This apparatus comprises "receiving a request for video content from a remote client" (Kikinis: figure 2, item 52, wherein the remote client is the local subscriber), "establishing an application session on a first processor" (Kikinis: wherein figure 2 illustrates an application session or set of processes to be executed upon request by the client), and within the first processor "accessing a video content source to retrieve the requested video content" (Kikinis: figure 2, items 58 and 66). Kikinis further discloses "outputting the data stream of compressed video content to the remote client (Kikinis: figure 2, items 60 and

68, wherein the information is transmitted or outputted to the client or subscriber, column 6, lines 57-59, wherein the information is compressed using a MPEG compression scheme). However, this apparatus lacks the spatially and temporally compressed frames produced by two processors as claimed.

Reitmeier teaches that compression encoders using luminance signal detail analysis may inaccurately display flesh-tone and other chrominance aspects of a picture (Reitmeier: column 1, lines 49-64). To fix this problem, Reitmeier discloses an apparatus that comprises a "first processor that compresses the retrieved video content to create a spatially compressed frame or content" (Reitmeier: figure 1, item 112, wherein the first processor is the DCT and QUANT, blocks 112 and 114, and the DCT produces the spatially compressed frame of content) and "signals to a second processor the existence of the spatially compressed frame of content" (Reitmeier: figure 1, wherein the second processor is comprised of items 132, 130, and 128, and the signaling is the passing of the content from the DCT to the motion compensation processors). Reitmeier further discloses that within the second processor "temporally compressing the spatially compressed frame of video and joining the spatially and temporally compressed frames of content" (Reitmeier: figure 1, wherein the second processor is comprised of items 132, 130, and 128 which temporally compresses the video using B and P frames, and items 106 and 122 are examples of joiners or merges which add the two pieces of video content together). Therefore, it would have been obvious to one having ordinary skill in

the art at the time the invention was made to take the apparatus discloses by Kikinis and add the compression encoder taught by Reitmeier in order to obtain an apparatus that correctly displays all chrominance aspects of an object. One would be further motivated to do so since Kikinis is silent on the specifics of the compression technique Kikinis discloses.

Regarding claims 2 and 17, although not disclosed, it would have been obvious to communicate combination of a unique channel and program identifier that carries the data stream of compressed video content to the remote client (Official Notice). Doing so would have been obvious in order to correctly distribute the video content to the appropriate clients.

Regarding claim 3, Reitmeier discloses "at least one spatially compressed frame of video comprises an MPEG2 I-frame" (Reitmeier: figure 2, item 112, wherein the DCT is performed on intra or I frames).

Regarding claims 4-5, Reitmeier discloses "the temporally compressed frame of video content comprises an MPEG2 B and P-frame" (Reitmeier: column 5, lines 7-11).

Regarding claim 6, Reitmeier discloses "the data stream of compressed video content comprises an MPEG2 transport stream group of pictures" (Reitmeier: column 4, lines 60-61, wherein the group of pictures is the GOP).

Regarding claim 7, Kikinis discloses "the application session on the first processor comprises an Internet application session" (Kikinis: column 6, lines 40-47, wherein the Internet session is achieved via the ISDN network).

Regarding claim 8, although not disclosed, the Internet application session could comprise an Internet browser application session (Official Notice). Doing so would have been obvious in order to better display information sent to the client.

Regarding claim 9, Kikinis discloses "accessing a switched network to retrieve the requested video content" (Kikinis: column 6, lines 40-47, wherein the switched network is the ISDN network).

Regarding claim 10, Kikinis discloses "the switched network comprises the Internet" (Kikinis: column 6, lines 40-47, wherein the ISDN network provides access to the Internet).

Regarding claim 11, Kikinis discloses "accessing a video-on-demand server to retrieve the requested video content" (Kikinis: column 6, lines 48-55, wherein the video-on-demand server is the file server).

Regarding claim 12, although not disclosed the broadband network could comprise a cable-television residential broadband network (Official Notice). Doing so would have been obvious in order to distribute the video to a plurality of clients at a high speed.

Regarding claim 14, Reitmeier discloses "depositing from the first processor to a memory location the spatially compressed frame of video content and setting an update flag associated with the memory location" (Reitmeier: figure 1, item 124, wherein the memory location is the frame store. One of ordinary skill in the art would realize that upon storing an item in memory, an

update flag is set to signal that the item has been successfully stored in the memory).

Regarding claim 15, note the examiners rejection for claim 1, and in addition, Kikinis discloses "rendering a frame of video that contains a display window with coordinates" (Kikinis: column 14, lines 8-15, wherein the video is transmitted to be displayed on a monitor. One of ordinary skill in the art would realize that in order to correctly display the video, coordinates must be present within the video, otherwise the video would be displayed on a monitor in a random order).

Regarding claim 16, Reitmeier discloses "the data stream of compressed motion video or audio comprises an MPEG2 transport stream" (Reitmeier: column 1, lines 18-19, wherein the transport stream is encompassed in the MPEG2 standard).

Regarding claims 19 and 25, Kikinis discloses that the "first and second processor each belong to at least one processing node within an N^M array of nodes, where N is the number of nodes within a row or column and M is the number of orthogonal dimensions of the array of nodes" (Kikinis: figure 5, wherein the nodes are represented as boxes in columns C1-C4 which are shown in an array format).

Regarding claim 20, Kikinis discloses that "N is at least 4 and M is at least 2" (Kikinis: figure 5, wherein the array show is a 4x4 array, i.e., $N=4$, $M=4$).

Regarding claim 21, Kikinis discloses that “each of the processing nodes are orthogonally coupled and support bi-directional communications between orthogonal processing nodes” (Kikinis: figure 5, wherein the nodes are shown to be orthogonally coupled, column 8, lines 61-62, wherein the bi-directional communication is the communication between the nodes).

Regarding claim 23, Kikinis discloses that “bi-directional communication between nodes comprises the traversal of the physical transport layer of the processing node” (Kikinis: column 8, lines 61-62, wherein the bi-directional communication is the communication between the nodes. One of ordinary skill in the art would realize that communication over a network comprises the traversal of the transport layer).

Regarding claim 24, Kikinis discloses that “the physical transport layer consists of a physical media selected from the group consisting of: figure-optics, databus, twisted pair, or microwave wave guide” (Kikinis: column 9, lines 52-65, wherein the databus is the bus).

Regarding claim 26, although not disclosed, each processing unit could comprise a bi-directionally coupled dual-CPU within the same package (Official Notice). Doing so would have been obvious in order to complete instructions faster by utilizing a dual-CPU architecture.

Regarding claim 27, Kikinis discloses that the “communications processing unit is bi-directionally coupled to the processing units” (Kikinis: figure

4, wherein the communications processing unit is the client station and the processing unit is the file server).

Regarding claim 28, Kikinis discloses that "at least a portion of the nodes are under program control to access and retrieve through a switched network video content and spatially compress the retrieved content to form spatially compressed frame of content" (Kikinis: figure 5, wherein the nodes are represented as boxes in columns C1-C4, column 6, lines 40-47, wherein the switched network is the ISDN network, and the spatial compression is the MPEG compression done at the server using a method illustrated by Reitmeier).

Regarding claim 29, Kikinis in view of Reitmeier discloses that "at least a portion of the nodes temporally compress the spatially compressed frames of content to form the plurality of temporally compressed frames and merge the spatially and temporally compressed frames of content to render the stream of compressed frames" (Kikinis: figure 5, wherein the nodes are represented as boxes in columns C1-C4, column 6, lines 40-47, wherein the temporal compression and merging is the MPEG compression done at the server using a method illustrated by Reitmeier).

Regarding claim 30, although not disclosed, it would have been obvious to perform a load balancing function to equally distribute the plurality of remote clients requests across the portion of nodes (Official Notice). Doing so would have been obvious in order to make the system run more efficiently by distributing the workload.

Allowable Subject Matter

3. Claims 31-36 are allowed.
4. Claim 22 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dave Czekaj whose telephone number is (703) 305-3418. The examiner can normally be reached on Monday - Friday 9 hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on (703) 305-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2613

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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